



UNITED STATES PATENT AND TRADEMARK OFFICE

en
UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/811,806	03/30/2004	Siva G. Narendra	INTEL-0038	2840
34610	7590	11/20/2006	EXAMINER	
FLESHNER & KIM, LLP P.O. BOX 221200 CHANTILLY, VA 20153			BOATENG, ALEXIS ASIEDUA	
			ART UNIT	PAPER NUMBER
			2838	

DATE MAILED: 11/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/811,806

Applicant(s)

NARENDRA ET AL.

Examiner

Alexis Boateng

Art Unit

2838

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 March 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☒ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 5/26/05.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 – 5, 10, 14 – 16, and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Desprez (U.S. 2003/0020435).

Regarding claims 1, and 14, Desprez discloses wherein a system comprising:

a detector to detect a voltage stored in ultra-capacitor (figure 2 item 14; paragraph [0045]);

an extractor to extract energy from the ultra-capacitor when the voltage falls below a predetermined value (paragraphs [0009] – [0011]).

Regarding claims 2 and 15, Desprez discloses wherein the predetermined value is based on an operating voltage of a load by the ultracapacitor (paragraphs [0043] dv is determined and interpreted by the charger, then the ultra-capacitor is charged by the charger).

Regarding claims 3 and 16, Desprez discloses wherein the extractor includes a linear regulator to increase voltage output from the ultracapacitor to at least equal the predetermined value (paragraph [0018]).

Regarding claims 4, Desprez discloses wherein a controller to monitor a change in the increased voltage (paragraph [0024] – [0025]), wherein the linear regulator

Art Unit: 2838

adjusts the changed voltage when the monitored voltage falls below a predetermined value (paragraph [0018]).

Regarding claims 5 and 18, Desprez discloses wherein the linear regulator comprises a first amplifier to amplify the voltage output from the ultracapacitor to a value which at least equals the predetermined value, wherein the controller generates signals to modify the resistance along the feedback path of the first amplifier to amplify the output voltage (paragraph [0050] – [0054]).

Regarding claims 10 and 20, Desprez discloses wherein the extractor includes an adiabatic amplifier to amplify voltage output from the ultracapacitor by a predetermined factor (figure 1 item 12; paragraph [0050]: discloses a bypass circuit, which is a MOSFET. Page 27 of applicant's specification discloses wherein the term adiabatic refers to without generating a "substantial amount of heat." Substantial is a term of degree not defined by specification).

3. Claims 22 – 28 are rejected under 35 U.S.C. 102(b) as being anticipated by Sasaki (U.S. 6,476,587).

Regarding claims 22, Sasaki discloses wherein a method comprising:

detecting a voltage stored in a ultracapacitor (figure 1 item 30) coupled to a load (figure 1 item L; column 6 lines 2 – 14);

connecting an energy extraction circuit between the ultracapacitor and load when the voltage falls below an operating voltage of the load (column 6 lines 2 – 47);

increasing the voltage to at least the operating voltage of the load using the energy extraction voltage (column 6 lines 2 – 47).

Regarding claims 23, Sasaki discloses wherein detecting a reduction in the increased voltage over time and adjusting the reduced voltage to maintain at least the operating voltage of the load (figure 2 and column 7 lines 28 – column 8 lines 47).

Regarding claim 24, Sasaki discloses wherein disconnecting the energy extraction circuit from at least from at least one of the ultracapacitor and load when the increased voltage falls below an operating voltage of the energy extraction circuit (column 6 lines 15 – 47).

Regarding claim 25, Sasaki disclose wherein a system comprising:

- a load (figure 2 item L);
- an ultracapacitor storing a voltage to drive the load (figure 2 item 30);
- an extractor to extract energy from the ultracapacitor when the voltage falls below a predetermined value (figure 2 item 20; column 6 lines 15 - 47).

Regarding claim 26, Sasaki discloses wherein the predetermined value is based on an operating voltage of the load (column 6 lines 15 – 47).

Regarding claim 27, Sasaki discloses wherein the load is at least on of a power supply, processor, cache, chipset and a memory (figure 3 shows wherein the system is used to charge the components of a mobile device which includes a power supply, processor, cache, chipset and memory).

Regarding claim 28, Sasaki discloses wherein the load, ultracapacitor and extractor are included on a single die (figure 2).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 6, 12, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Desprez (U.S. 2003/0020435) in view of Sasaki (U.S. 6,476,587).

Regarding claim 6, Desprez does not disclose the invention as claimed. Sasaki discloses in figure 1 item 22 and column 6 lines 15 - 47 wherein a second amplifier is used is to amplify the voltage from the first amplifier. At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify the Desprez system with the Sasaki system so that the load receives the proper amount of voltage.

Regarding claim 12, Desprez does not disclose the invention as claimed. Sasaki discloses in figure 1 item 25 works as a transmission gate. At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify the Desprez system with the Sasaki system to that the voltage in the ultracapacitor may be redirected as necessary to the load or through the regulation.

Regarding claim 17, Desprez does not disclose the invention as claimed. Sasaki discloses in figure 2 and column 7 lines 28 – column 8 lines 47 wherein the reduction of the voltage is detected and adjusted to maintain at least the load operating voltage. At the time of invention, it would have been obvious to a

person of ordinary skill in the art to modify the Desprez system with the Sasaki system so that the system is not damaged by a too low voltage.

6. Claims 7, 8, 13, 19, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Desprez (U.S. 2003/0020435) in view of Bhomik (U.S. 6,268,666).

Regarding claims 7 and 19, Desprez does not disclose the invention as claimed. Bhomik discloses in column 6 lines 44 – 62 wherein the extractor includes a switched capacitor voltage increase output from the ultracapacitor. At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify the Desprez with the Bhomik system so that the system is not damaged by a voltage that is too high or too low.

Regarding claims 8, 13 and 21, Desprez does not disclose the invention as claimed. Bhomik discloses in column 1 lines 62 – column 2 lines 7 and column 2 lines 37 – 58 wherein the conversion is a DC-DC step up conversion that steps up the voltage more than two times its amount. At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify the Desprez system with the Bhomik system so that the devices or system is not damaged by incorrect voltage.

7. Claims 9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Desprez (U.S. 2003/0020435) in view of Williams (U.S. 5,517,379).

Regarding claims 9 and 11, Desprez does not disclose the invention as claimed. Williams discloses in column 3 lines 51 – 67 wherein a controller is used to monitor the voltage and in column 3 lines 33 – 42 a voltage regulator is used to maintain the voltage. At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify the Desprez system the

Art Unit: 2838

Williams system so that the system does not become damaged by incorrect voltage.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexis Boateng whose telephone number is (571) 272-5979. The examiner can normally be reached on 8:30 am - 6:00 pm, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Karl Easthom can be reached on (571) 272-1989. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AB


KARL EASTHOM
SUPERVISORY PATENT EXAMINER